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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,660	12/16/2003	Chikara Aoshima	03500.017781	2844

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EXAMINER

LE, DANG D

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,660

Applicant(s)

AOSHIMA ET AL.

Examiner

Dang D. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-16 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/4/04 & 5/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maegawa et al. (6,316,851) in view of Sakamoto (5,780,944).

Regarding claim 1, Maegawa et al. shows an actuator, comprising:

- A rotor that includes:
- A magnet (1) that has a cylindrical shape, and an outer peripheral surface alternately magnetized into different poles in a peripheral direction; and
- A coil (2) that is concentric with the magnet, and arranged adjacently to the magnet in an axial direction thereof; and
- A stator that has a magnetic pole portion opposed the outer peripheral surface of the magnet.

Maegawa et al. does not show a soft magnetic member that is fixed to an inner diameter portion of the magnet; wherein the soft magnetic member composing the rotor, and the stator excited by the coil.

Sakamoto shows a soft magnetic member (4) that is fixed to an inner diameter portion of the magnet (5); wherein the soft magnetic member composing the rotor, and the stator excited by the coil for the purpose of reducing magnetic reluctance of a magnetic circuit.

Since Maegawa et al. and Sakamoto are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a soft magnetic member to an inner diameter portion of the magnet as taught by Sakamoto for the purpose discussed above.

Regarding claims 2 and 3, it is noted that Maegawa et al. and Sakamoto also show all of the limitations of the claimed invention.

Regarding claims 5 and 6, it is noted that Sakamoto also shows the inner stator and outer magnet in Figure 4.

5. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maegawa et al. (6,316,851) in view of Jackson, Jr. (4,445,061).

Regarding claim 1, Maegawa et al. shows an actuator, comprising:

- A rotor that includes:

- A magnet (1) that has a cylindrical shape, and an outer peripheral surface alternately magnetized into different poles in a peripheral direction; and
- A coil (2) that is concentric with the magnet, and arranged adjacently to the magnet in an axial direction thereof; and
- A stator that has a magnetic pole portion opposed the outer peripheral surface of the magnet.

Maegawa et al. does not show a soft magnetic member that is fixed to an inner diameter portion of the magnet; wherein the soft magnetic member composing the rotor, and the stator excited by the coil.

Jackson, Jr. shows a soft magnetic member (40) that is fixed to an inner diameter portion of the magnet (30); wherein the soft magnetic member composing the rotor, and the stator excited by the coil for the purpose of reducing magnetic reluctance of a magnetic circuit.

Since Maegawa et al. and Jackson, Jr. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to fix a soft magnetic member to an inner diameter portion of the magnet; wherein the soft magnetic member composing the rotor, and the stator excited by the coil as taught by Jackson, Jr. for the purpose discussed above.

Regarding claim 4, it is noted that Jackson, Jr. also shows all of the limitations of the claimed invention.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maegawa et al. in view of Sakamoto and further in view of Jackson, Jr. (4,445,061).

Regarding claim 7, the actuator of Maegawa et al. modified by Sakamoto includes all that is recited in the claimed invention except for the soft magnetic member being the output shaft.

Jackson, Jr. shows a soft magnetic member (40) being the output shaft for the purpose of reducing magnetic reluctance of a magnetic circuit.

Since Maegawa et al., Sakamoto, and Jackson, Jr. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the shaft with soft magnetic material as taught by Jackson, Jr. for the purpose discussed above.

Allowable Subject Matter

7. Claims 8-16 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: the record of prior art does not show an actuator comprising a first coil and a second coil each having a cylindrical shape, which are concentric with a magnet ring, and arranged in opposite positions across the magnet ring along an axial direction thereof; a first shaft that is formed of a soft magnetic material, inserted into an inner diameter portion of the first coil, and fixed to an inner diameter portion of the magnet ring; and a second shaft that is formed of a soft magnetic material, inserted into an inner

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diameter portion of the second coil, and fixed to an inner an inner diameter portion of the magnet ring as shown in claim 8, or an actuator comprising a first coil and a second coil that are concentric with the magnet ring, and arranged in opposite positions across the magnet ring along an axial direction thereof; a rotation shaft that formed of a soft magnetic material; is fixed to an inner diameter portion of the magnet ring; and includes at least an inside magnetic pole portion that is respectively opposed to one of the first outside magnetic pole portion and the second outside magnetic pole portion in an axial range thereof, and are respectively excited by one of the first coil and the second coil as shown in claim 13, or an actuator comprising a first coil and a second coil that are concentric with the magnet ring, and arranged in opposite positions across the magnet ring along an axial direction thereof; and a shaft is formed of a soft magnetic material; is fixed to an inner diameter portion the magnet ring; includes a first inside magnetic pole portion and a second inside magnetic pole portion that are respectively opposed to the first outside magnetic pole portion and the second outside magnetic pole portion in axial ranges thereof, and are respectively excited by the first coil and the second coil; and is formed with a groove between the axial range of the first inside magnetic pole portion opposed to the first outside magnetic pole portion and the axial range the second inside magnetic pole portion opposed to the second outside magnetic pole portion as shown in claim 15.

Information on How to Contact USPTO

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D. Le whose telephone number is (571) 272-2027.

The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2/27/05

A handwritten signature in black ink, appearing to read 'Dang D. Le', written in a cursive style.

DANGLE
PRIMARY EXAMINER